St. Bartholomew's Hospital Journal.

"Æquam memento rebus in arduis
Servare mentem."
—*Horace*. Book ii, Ode iii.

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CALENDAR.

Mon., Aug.	3.	**Bank Holiday.**
Tues., „	4.	—Prof. Witts and Prof. Paterson Ross on duty.
Thurs., „	6.	—Cricket Tour. Match *v.* Bridport. Bridport.
Fri., „	7.	—Dr. Hinds Howell and Mr. Harold Wilson on duty.
Fri., „	7.	Cricket Tour. Match *v.* Cambridge Sou'westers.
Sat., „	8.	Honiton.
Mon., „	10.	Cricket Tour. Match *v.* Somerset Stragglers.
Tues., „	11.	Taunton.
Tues., „	11.	—Dr. Gow and Mr. Girling Ball on duty.
Wed., „	12.	Cricket Tour.
Thurs., „	13.	Cricket Tour.
Fri., „	14.	Cricket Tour.
Sat., „	15.	Cricket Tour.
Fri., „	14.	—Dr. Graham and Mr. Roberts on duty.
Tues., „	18.	—Dr. Geoffrey Evans and Mr. Vick on duty.
Fri., „	21.	**—Last day for receiving matter for the September issue of the Journal.**
Tues., „	25.	—Prof. Witts and Prof. Paterson Ross on duty.
Fri., „	28.	—Dr. Hinds Howell and Mr. Harold Wilson on duty.

EDITORIAL.

THE tragedy of Nelson's death has evoked expressions of sympathy from far and wide, and tributes to his memory appear in our columns this month. But there is also a tribute to which we can add our contribution in the Nelson Memorial Fund, of which there has already been notice in the Press. That notice, however, has purposely been given only limited publicity, and it is to be hoped that those who held him in high esteem and saw in him a great figure in the future of thoracic surgery, will take the opportunity of helping, however little, towards assuring the education for his children which he would certainly have given them. The fund, as we go to press, has reached over £3000, but no doubt there are still many who will help to increase it. In this his home, indeed, it is pleasing to think that we are able to avail ourselves of the opportunity of so doing.

The University of London Centenary Celebrations coincided with a Conversazione held on July 2nd to commemorate the opening of the new Medical College. The delegates in fact were invited to attend at the request of the University, and many were among the 700 guests present. A Reception in the College Hall at 9–9.30 by Lord Stanmore preceded demonstrations in the various departments as indicated:

PHYSICS DEPARTMENT.

F. L. HOPWOOD, D.Sc. (Professor of Physics).

IN LECTURE THEATRE at 11 p.m.
Demonstration on artificial production of radio-active substances.

IN PHYSICS LABORATORY—
1. Methods of detecting and measuring weak ionizing radiations.
2. Radium appliances used in the Hospital.
3. Singing flames.
4. Experiments illustrating short-wave diathermy.
5. Periodic precipitation and Liesegang's rings.
6. Experiments with liquid air.

IN RESEARCH LABORATORY—
1. Experiments with ultra-violet light.
2. Optical illusions.

PHYSIOLOGY DEPARTMENT.

H. HARTRIDGE, F.R.S., M.D., M.R.C.P. (Professor of Physiology).

IN THE LECTURE THEATRE at 10.30 p.m., a short lecture on illusions of colour.

IN THE EXPERIMENTAL LABORATORY.—Microscopic specimens of—
1. Lungs of man and various animals.
2. Blood-counts.
3. Differential blood-counts.
4. Various tissues and glands.
5. Reaction time of man.
6. Determination of horse-power of man.

IN THE RESEARCH LABORATORIES.—Demonstrations on—
1. Respiration.
2. Colour-blindness tests.
3. The singing electric arc.
4. Artificial respiration, Bragg's method.
5. Ophthalmoscope.
6. Experiments on colour vision.

BIOCHEMISTRY DEPARTMENT.

T. A. WORMALL, D.Sc. (Professor of Biochemistry).

IN THE BIOCHEMISTRY LABORATORY.—Demonstrations on—

1. The effect of pH on surface tension.
2. Gas analysis.
3. CO in tobacco smoke (reversion of spectroscope).
4. Snake venom on blood-clotting rate.
5. The tensile strength of fibrin filaments.
6. Various colour reactions.
7. Crystals under polarized light.
8. Brownian movement.

IN THE PHARMACOLOGY LABORATORY.

Exhibits to illustrate recent advances in treatment :

1. Liver therapy in pernicious anæmia.
2. Vitamins.
3. Oxygen in treatment.

IN THE PHARMACOLOGY LECTURE THEATRE.

Cinematograph film on the use of prostigmin in myasthenia gravis.

ANATOMY DEPARTMENT.

H. H. WOOLLARD, M.D., D.Sc. (Professor of Anatomy).

IN THE LECTURE THEATRE at 9.45 p.m., a demonstration of the cinematograph films :

1. Development of the sea urchin.
2. Development of the frog.
3. Circulation of the blood.

IN THE PROSECTORIUM.—Demonstration of dissections.

IN THE DEMONSTRATORS' ROOM—

(*a*) Preparations of the human brain.
(*b*) Tissue cultures.

IN THE X-RAY ROOM.—Demonstration of living anatomy.

IN THE RADIOGRAPHIC ROOMS.—Demonstrations of X-ray films.

IN THE PROFESSOR'S ROOM.—Phenomena of sensation.

IN THE NEUROLOGICAL LABORATORY.—Demonstration of lymphatics.

IN THE HISTOLOGY LABORATORY.—Demonstration of important phenomena of embryology.

IN THE DISSECTING ROOM.—Exhibit of the anatomical features of anthropoids, fossil and primitive man, and European races.

BIOLOGY DEPARTMENT.

W. A. CUNNINGTON, M.A., D.Sc. (Lecturer in Biology).

BIOLOGY LABORATORY—

1. Demonstration of pond life.
2. Rotation of cytoplasm in a leaf.
3. Demonstration of section-cutting by microtomy, paraffin wax method.
4. Demonstration to illustrate alcoholic fermentation as used in the process of brewing.
5. Museum specimens and microscopic slides.
6. Insectivorous plants ; the sensitive plant.

There was Dancing in the College Hall and a Buffet in the Marquee, and members of the staffs of all the teaching hospitals of London were invited. The occasion, in fact, was an official one marking the opening of the College, and thus preceded the gathering at which all old Bart.'s men will get a similar opportunity of seeing over it. We refer, of course, to the Old Students' Dinner on October 1st, when, we are informed by the Dean, the Minister of Health, Sir Kingsley Wood, will be the chief guest, and Sir Charles Gordon-Watson will be in the Chair.

The College, we should mention, will be open during the preceding afternoon for old Bart.'s men to see, now that it is completed.

* * *

Following upon the suggestion than an annual exchange of visits should be made between the Association of Surgeons of Great Britain and Ireland and the Academie de Chirurgie of France, forty French surgeons visited London at the beginning of last month. After spending the morning of Monday, July 6th, at the Royal College of Surgeons, our distinguished visitors were entertained at this Hospital in the afternoon.

Accompanied by Sir Holburt Waring and other members of the Council of the Royal College of Surgeons, they were met by the Dean at the Medical College, Charterhouse Square, where lunch was served in the College Hall. After a short tour of the Anatomy Department, the party proceeded to the Hospital and was distributed among six theatres, in which Dr. Barris, Sir Harold Gillies, Mr. Geoffrey Keynes, Mr. J. B. Hume, Mr. Rupert Corbett and Mr. S. L. Higgs were operating.

Dr. Levitt demonstrated a group of patients after treatment by X-rays for carcinoma of the œsophagus, and the visitors were then conducted to the Pathological Department, where Dr. Canti's film of glioma-cells growing in tissue culture was shown by Dr. Bland. In the Museum the specimens of historical interest had been collected and arranged by Dr. Magnus, and exhibits illustrating some of the work of the Surgical Professorial Unit were also on view.

Tea was provided by the Governors, and was served by the Nursing Staff in the Great Hall, and special mention should be made of the valuable assistance rendered by the gifted nurses and students who acted as interpreters. Our guests departed well satisfied with what they had seen, and we count it a privilege that this Hospital should have been chosen as the first to offer them hospitality on their inaugural visit.

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The eighty-seventh anniversary of the birth of Sir William Osler was celebrated at a meeting of the Osler Club of London at the Langham Hotel on Monday, July 13th. Lord Horder delivered the ninth Oslerian Oration on " Subacute Septic Endocarditis ", published in full in the *Lancet* (July 25th, 1936). About forty members and guests of the Club were present, with a generous proportion of Bart.'s men, including Sir D'Arcy Power and many of Lord Horder's most recent House Physicians. The orator, having traced the part played by Osler in developing the clinical picture of the disease, referred briefly to his own observations, and attempted a synthesis of the pathogenesis of the disease. He concluded with a stimulating account of the possibilities

of treatment, both curative and prophylactic. The discussion was opened by Prof. Paterson Ross, and continued by Dr. Robb-Smith, Prof. John Beattie, Dr. G. F. Brock, Prof. Leonard Findlay, Drs. J. D. Rolleston, H. W. Rodgers, Stephen Taylor, E. R. Cullinan and E. T. C. Spooner. Lord Horder, in summing up, dealt in his best "clinic" manner with the points raised by these speakers, and the meeting concluded with a characteristic speech from Dr. W. R. Bett.

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We congratulate Lord Horder on his appointment as Physician-in-Ordinary to His Majesty's Household, Sir Thomas Dunhill as Surgeon, and Dr. Arnold Stott as Physician to the Household.

* * *

We note with the greatest pleasure Prof. Kettle's election as a Fellow of the Royal Society. It is a well-deserved tribute from his scientific colleagues, which will delight his many friends in the Hospital and medical world in general.

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We congratulate Mr. J. P. Hosford on his election as Assistant Surgeon.

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We also congratulate Dr. A. W. Franklin on being elected Assistant Physician to the Children's Department.

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In view of the Old Students' Dinner being held on October 1st, the meeting of the Bart.'s Golfing Society is postponed—in all probability until the next day. An announcement, however, will appear in our next issue.

OBITUARIES.

DR. W. H. HURTLEY.

PAST and present students will have heard with deep regret of the death on June 2nd of Dr. William Holdsworth Hurtley, who was head of the Chemistry Department of the Medical College for thirty years.

He was born in 1865 at Armley near Leeds. His father was a farmer, but Hurtley did not want to follow this profession and was assisted by his mother in the choice of a career. He went first of all to the Leeds Church Middle Class School, and obtained a junior and later on a senior scholarship at the Yorkshire College (now the University of Leeds), where he had a distinguished career, as he was first of his year in Greek, mathematics and chemistry. He graduated at London University with a B.Sc. in 1888. He was for a few years science master at his old school, but then came to London as a tutor in chemistry at the University Tutorial College. He took his D.Sc. degree in 1901, and was the Medallist of the City and Guilds of London.

In 1899 he was appointed Demonstrator of Chemistry at St. Bartholomew's when Prof. Chattaway was Lecturer. He succeeded him as head of the Department in 1906, and was finally appointed Reader in Chemistry at London University in 1919. During the whole of his long association with the Medical College Hurtley endeared himself to all with whom he came in contact. His integrity, courtesy and modesty and the way in

which he would devote his whole energies to assist a colleague or student impressed everyone. He was an excellent teacher, taking great pains in the preparation of his lectures and demonstrations, with the result that his audience understood him very easily. Although his teaching duties were always exceedingly arduous, he nevertheless carried out much important research. He was diverted from pure chemistry to biochemistry by the late Sir Archibald Garrod, and collaborated with him in his work on cystinuria and alkaptonuria in a couple of important papers. He also did much work on the excretion of beta-oxybutyric acid in diabetes mellitus. His study of the estimation of iodine in the blood led to the development of a standard method. Recently he had developed methods of preparing large

quantities of some bile acids hitherto obtainable only in minute quantities, and had succeeded in discovering and isolating a new member of this group.

Hurtley was exceedingly well read, but was especially interested in Old Testament history. He served on the General Literature Committee of the Society for the Propagation of Christian Knowledge. He had decided to resign at the close of the summer session, and had been nominated as a Governor of the Medical College. Unfortunately he fell ill in February with bronchitis and eventually died in the Hospital. The funeral service was held in St. Bartholomew-the-Less, and the church was completely filled by his colleagues and students. His three children, one son and two daughters, are all graduates of London University, and are either teaching or doing research work. To them and to his widow we offer our sincere sympathy in their great loss.

Mr. H. P. NELSON.

(An Address delivered at the Memorial Service in the Church of St. Bartholomew-the-Great by Mr. J. E. H. Roberts.)

It was less than two months ago that Nelson gave an address at the memorial service to his friend, John Melly. That address was not only a tribute to Melly, but it revealed in Nelson a man of sensitive feeling, a man who admired the devotion to duty, the disregard of personal danger and discomfort, and the deep religious feeling which Melly showed.

Nelson himself was a man of a most original mind, a tireless worker, a brilliant surgeon, who had devoted himself to the improvement of the surgery of the chest, and who at the early age of 35 had already attained a standing in his profession which in my experience was unique in so young a man.

But he had other qualities. He had a genius for friendship, and whether in this country or in America his friends were legion. They knew him as Tim Nelson. Last year, when I was in America, I was astonished that so many came to me to make affectionate inquiries as to his well-being, and that he had managed to impress his personality on so many people in so short a time.

He was a loyal colleague, and lately had begun to aid a yet younger generation of thoracic surgeons by putting opportunities of work in their way, and wisely advising them.

Nelson was not content to regard his patients as offering merely surgical problems; he followed them out of hospital into their home lives, and saw that arrangements were made for their well-being until they were able to return to work.

His mind was robust, and a few hours after the removal of his arm he was full of plans for remaking his life, and facing the problem of how to make use of his special training and experience now that he could no longer operate. At the London Hospital, where he had so recently begun a new career, at the Brompton Hospital and at Papworth, he leaves a gap which from a professional point of view it will be difficult to fill.

But at Bart.'s, where he had been trained and worked so long, it is natural that we shall miss him most of all,

Elliott & Fry.

especially for his ingenuity, his rages at injustices and wish to right them immediately, his delight in a new thing, and his interest in the details of craftsmanship. Still more it is the man whom we shall miss, and the friend who delighted in hospitality and good taste.

APPRECIATIONS.

I have been invited to add a few words to Mr. Roberts' appreciation of "Tim" Nelson. Seeing him as I did from time to time during his rare moments of leisure, I am in a good position to do so. But perhaps the word

"leisure" has been badly chosen, for amongst the snapshots of Tim that pass through my mind when I think of him at Amberley, there are very few that are suggestive of leisure. I see him stripped to the waist digging in the site of the new swimming-pool, struggling with a great railway-sleeper that is to shore up an embankment, or nailing down the boards of the roof that we have constructed to the children's outdoor sleeping quarters. Only rarely can I catch a glimpse of him stretched on the grass for half an hour's sleep after a bathe in the river, or preparatory to undertaking some new adventure in building or carpentry. For to Tim everything in life came in the guise of a new adventure. What to another man might have appeared an irksome problem was for him an opportunity of finding a new and exciting way through a difficulty. The best way of doing a thing, the most efficient manner of organizing work, the most practical method of carrying out a scheme, provided grist to a brain that turned unceasingly. Without such material he would have been restless, but fortunately it was always available.

"What are you writing?" I asked him one day when I found him engrossed in the throes of composition—writing did not come easily to him.

"It is a letter to Gordon Selfridge, about his luncheon department," he answered. "The way it is run is absolutely disgraceful, and compared with similar places in America, still in the Dark Ages. If he'd only give me the job of organizing it, I could save him twenty per cent. of its costs and make it twice as efficient. But I don't know how to word my letter."

It was clear that he did not, for had Mr. Gordon Selfridge received that surprising communication there would have been little chance of Tim's earning his attention. I pointed out to him that elderly successful men in prominent positions responded better to flattery than to undiluted truth. The letter was amended.

The uncompromising honesty and passion for efficiency that were amongst Tim's chief assets provided also his greatest difficulties. He was astonished that anyone could be content with any work but the best, and in the earlier days of his career he often antagonized by his outspokenness those whom it would have been wiser to treat with diplomacy. To him nothing was worth doing that was not done well, and more than once my contributions to the various carpentry works on which we were jointly engaged were ruthlessly rejected. Although in time he learned diplomacy, he learned it with difficulty and always under a kind of inner protest. Sometimes it was the only means of obtaining certain requirements that were essential to efficiency, and therefore had to be employed, but always with the feeling that it was a pity.

His abruptness lay only on the surface, and beneath was an understanding, a kindness and a willingness to help that are seldom found in one so young. There are those who still retain in their mind's eye pictures of Tim wheeling coals to their home in a perambulator because they happened to be short of fuel, or his making their beds and preparing their food because they were ill and unable to afford the expense of a nurse, and of his coming late at night to see them when their condition did not in the least warrant an emergency visit.

In spite of the rate at which he lived, Tim always had time for putting himself out in the service of his friends and patients. Small wonder that enough seats could not be found for all those who wished to attend the memorial service at St. Bartholomew-the-Great.

K. W.

As we sit by the Fountain waiting for the time to pass we shall see him again in our mind's eye coming through the arch, his head strained a little forward and his gait quick and impatient with the distance he had to go. In his hand would be a dark brown leather case and under his arm a pile of notes or brown X-ray envelopes, and as he passed you in the Square he would give you a quick glance and a smile and be gone, leaving you with an impression of a pale face and keen eyes, of determination, and of a feeling of impatience that time was so short. But there was nothing unmethodical and no impetuous unreason about him. Few men carried common sense and method so far as he did. Why, he would even stand on a chair to put on his trousers, especially if they were black, so that the ends would not pick up dust from the floor. From such little things to the whole planning of his work there was nothing haphazard. His system of keeping notes and follow-up records was an example not only of his keenness and industry, but of the orderly working of his mind. When this was combined with such directness, honesty and sympathy with others as he had, it is easy to see why Tim was always fighting to put something right, or get something done better than it had ever been done before. He hated that ubiquitous self-satisfied complacency that shelters the inefficient behind tradition, or makes a religion of sentimentality. He would blurt out the most tactless truths with little regard to the harm it may have done him. But he took no pleasure in merely selfish criticism, and if you took him your complaints of other people he might ask you if you were sure it was not your own fault, and then give you his advice, careful, surprisingly mature, inspiring, and always kind. He would not tell you an article was bad without sitting up late into the night rewriting it with you. His help was always sincere, and he gave it

with a fresh robust generosity which brought new energy and ambition to the dullest moments.

He used to surprise his patients, and their doctors too, by his lack of the usual soft accompaniments of good medical salesmanship, but they soon realized that they had been in the presence of a great and unforgettable man, by whose rare honesty and clear advice it was difficult not to be impressed.

After a hard day's work he would take you in his car, driving hard and always crossing if the lights were yellow, and in a few minutes, when you were standing on the edge of the swimming-bath, he would come out and dive straight in. After the swim you would go home with him to dinner, an unexpected guest, but you would always feel welcome. It was late already, but you stayed later, and by the fire after dinner he would talk of plans and schemes of how things might be done better, of mistakes he had made and seen, and how to avoid them; of clinics in many countries and what was to be learned from them. Often he would champion the less known men, and never was he impressed by mere reputation and virtuosity. It was a great privilege to know Tim, whose kindness and generosity were so spontaneous, and who lived a life full of energy and courage according to a faith which was firm. When you closed his gate and saw him wave good-bye from the top of the steps before his door you went home full of inspiration, and, when the morning came you took courage from it.

H. W. R.

GOLD IN THE TREATMENT OF THE RHEUMATIC DISEASES.

(A paper read before the Paget Club.)

MY remarks are based on a survey that I made some six years ago, of other people's work in Berlin and Paris, and my personal experience of more than one hundred rheumatic patients who have come under my care since that time and have been treated with gold.

(A) Principles of treatment.

(B) Indications for the use of gold salts and the selection of cases.

(C) Choice of gold preparations.

(D) Reactions and toxic manifestations.

(E) Clinical results.

(A) The Principles of Treatment.

Treatment by gold salts is a form of chemotherapy.

Certain of the chemical substances injected in chemotherapy not only destroy the infecting organisms, but hasten the metabolic processes in general and have a peculiar influence in increasing the metabolism of the mesenchymal tissues of the body and, to some extent, increasing in a selective manner the defence mechanism which is, in part, specific for each infection.

Direct histo-chemical methods have shown that chemical drugs are deposited in the cells and fibres of the connective tissue, and that the mesenchyme participates in the reaction to infection and the process of repair. The reaction to the disease process results in the resorption of the toxic products, and in subsequent fibrosis of the mesenchymal tissue.

The mesenchymal tissues form one of the most important sites in which rheumatic lesions tend to become localized—as is evidenced in the pathology of rheumatic fever, rheumatoid arthritis and muscular rheumatism. This, in brief, forms the basis for the treatment of the rheumatic diseases by metallic compounds.

Some ten years ago compounds of gold began to be used in the treatment of the rheumatic diseases. Feldt first prepared organic compounds in which the metal was combined in a complex form with carbon. These he termed "aurothio-salicylic acids". To certain of these the trade name of "solganol" and "solganol B" (Schering) were given. Feldt showed (in experimentally produced infections in animals) that these gold salts had but little action if injected at the time of the inoculation of bacteria, but that they could arrest the infection if injected some time after the original inoculation—suggesting that they acted by stimulating the defence reaction rather than by a direct bactericidal effect.

In 1926 clinical trials were carried out in Germany by Feldt, Umber and others on the action of these gold salts in the rheumatic diseases. In France, in 1929, Forestier published his first report on the results with "allochrysine lumiere", a French gold preparation. Since then, gold has come to be used widely in the therapeutics of the rheumatic diseases.

(B) Indications for the Use of Gold Salts.

Under the popular general term "rheumatism" are included substantially different diseases. Thus, such widely different conditions as rheumatic fever, lumbago, myalgia, sciatica and chronic joint conditions—rheumatoid arthritis, osteo-arthritis and gout—are found classified as rheumatism. The careful choice of cases suitable for gold treatment is important, and, as a basis for selection, I shall refer you to the nomenclature which some of us prepared, and which has been accepted by the Committee on Chronic Rheumatic Diseases (of which I am a member) set up by the Royal College of Physicians:

(*a*) Rheumatic fever—acute and subacute.
(*b*) Chronic or subacute arthritis.
(*c*) Non-articular rheumatic affections, such as fibrositis, panniculitis and neuritis.

It is to the chronic or subacute forms of arthritis to which particularly I would draw your attention. Two great types of chronic arthritis form the essential basis of this classification.

One is the proliferative or ankylosing type—the form usually known in this country as the *rheumatoid type*. The essential characteristic anatomical change is a proliferation of the synovial membrane and of the perichondrium of the articular cavity, and formation of granulation-tissue in the form of a thin pannus, creeping over, invading and replacing joint cartilage, leading to fibrosis and joint deformity. This type may be divided in accordance with the presence or absence of known or specific ætiological or associated factors.

The other is designated the degenerative or non-ankylosing type, being generally known as the *osteo-arthritic type*. The primary pathological change is the degeneration of the articular cartilage with exposure of the underlying bone, usually affecting areas of contact subjected to greatest strain, weight or movement. Sometimes this is associated with compensatory over-growth of cartilage or bone on the outer areas of opposing articular surfaces, forming lipping or osteophytes. It may be of known ætiology, secondary to trauma, congenital malformations, or to arthritis of the rheumatoid type, or associated with disordered metabolism, as the climacteric, gout, hæmophilia, or associated with organic disease of the nervous system, as in Charcot's joints, or of unknown ætiology, as in the so-called senile variety.

The main, if not the only, suitable cases for treatment are included in the rheumatoid type of arthritis. This is subdivided as follows:

Rheumatoid type:

a. *Specific causation: Known ætiology.*

Gonococcal, tuberculous, syphilitic arthritis and arthritis following other specific infections—such as scarlet fever, dysentery, pneumonia, etc.

b. *Non-specific causation: Unknown ætiology.*

(i) With known associated factors:
(*a*) "Focal" arthritis, including so-called "multiple infective" and metastatic arthritis—typical foci for which are the teeth, tonsils, nasal sinuses, urogenital tract (such as pelvic infections), gastro-intestinal tract (gall-bladder), etc. The various forms of streptococci and staphylococci may be considered as the more common of the infecting organisms.
(*b*) "Still's disease."

(ii) With no known associated factors:
(*a*) "Rheumatoid arthritis." That form of chronic, slowly progressing, polyarticular arthritis, which occurs much more frequently in women than in men, and commonly manifests itself in women in the third and fourth decades of life, which may be arrested in any of its early stages, or continue with exacerbations and remissions for years, finally leading to severe and permanent crippling, and—
(*b*) "Spondylitis-ankylopoetica," which probably is but one form of the rheumatoid type, but one which (on account of its localization) shows certain pathological changes which do not justify its inclusion as a subdivision of rheumatoid arthritis.

In my opinion, the presence of the rheumatoid type of arthritis—in any of its forms or in any stage of its evolution—is a strong indication for gold treatment. My own series of cases includes young women suffering from the first or early stage of rheumatoid arthritis; the second or "active" stage, in which, in addition to painful and tender, swollen joints, the skeletal muscles have become wasted and joint deformity has commenced; and the third stage, in which the disease appears to have become arrested, and the signs are, in great part, the residua of past infection, and the form which appears at about the time of the menopause—in which in addition to swelling of the knees, other mesenchymal changes, such as panniculitis, varicosities, etc., may be marked (in this group there are dangers to which I will refer later), and spondylitis-ankylopoetica in young men.

Contra-indications.

Unsuitable cases.—Any form of the osteo-arthritic type of arthritis, such as osteo-arthritis of the hip and spine in men, and osteo-arthritis of the knees and hands in (as Heberden's nodes) middle-aged and elderly women, are in my opinion definitely unsuitable for treatment, as can be understood from the principles of treatment and pathological changes in the joints to which I have referred.

Although, in common with others, I have treated patients showing the articular manifestations of rheumatic fever, and those with persistent muscular rheumatism, which appears to be associated with an infective focus, I do not consider that, in the present state of our knowledge, gold treatment is indicated in these cases.

Peculiar Contra-indications.

The presence of disease conditions, such as Bright's disease, diabetes, congestive heart failure, blood disorders (such as hæmophilia), are absolute contra-indications.

The presence of marked debility, raised blood-pressure and hepatic disorders make very careful clinical and laboratory investigation necessary before treatment is instituted.

Selection of Patients.

Before starting treatment, in addition to eliciting a careful history and full clinical examination, it is my routine to take an X-ray of the hand, and of any particularly affected joint, to examine the urine for albumen, and to make a complete blood-count and blood sedimentation rate.

The blood sedimentation rate is of particular value, both as an aid to diagnosis, and in following the course of the disease and the response to treatment. Unfortunately, for the diagnosis and treatment of the rheumatic disease, we have not as yet any specific reaction comparable to the blood Wassermann test in syphilis. The blood sedimentation rate, however, although a non-specific reaction, is of value both in diagnosis (particularly in the differentiation of the rheumatoid and the osteo-arthritic types of arthritis) and in prognosis. In general, in every patient with the rheumatoid type of arthritis, in its active stages, the blood sedimentation rate is permanently raised (often 25–80 mm. for the first hour, compared to the normal 3–8), whereas in the osteo-arthritis type, when not associated with some secondary infection, it is within normal limits. But the importance of this test is of much greater value as a guide to prognosis, the course of the disease, and the success or failure of treatment.

The sedimentation rate in my cases is always taken immediately before treatment is started, and then once a month until treatment ceases. In practice, if in an individual patient the rate remains raised, or falls only slightly and does not return to normal, the disease must be considered as active and progressing. In gold treatment, if at the end of six to eight weeks the sedimentation rate has not fallen, the treatment must be considered to have had as yet but little effect. If the rate, even if originally very rapid, tends progressively to become slower, it indicates that the disease process is becoming arrested, and suggests that the treatment is effective. The disease must not be considered arrested and the patient "cured" until the sedimentation rate has returned to normal, and remained within normal limits for three to six months from the time treatment has been discontinued. To achieve this, three or more courses of treatment may have to be given, and the period of observation may be two years or more. If in routine practice after three or six months, even in the absence of clinical signs or symptoms, the blood sedimentation rate is found to be rising, a recrudescence of the disease must be suspected and treatment must be resumed. It is a failure to appreciate these points which has led to the lack of success obtained by some who apply gold treatment. Only too frequently treatment has been discontinued too soon.

c. CHOICE OF GOLD PREPARATIONS.

The only active salts appear to be those which contain a high proportion of gold combined with a sulphur radical. They can be injected either in an aqueous solution or suspended in oil. To be effective, they must be given intramuscularly, and not, as sometimes advertised, orally.

The preparation which I use is "solganol B" (aurothio-glucose), an oily suspension which is said to be absorbed more slowly than the watery forms of gold salts. Jacques Forestier uses allochrysine (an aurothropropanal sulphonate of sodium). Myochrysine and myoral are other preparations in clinical use.

The object of treatment, as I have already said, is to enable the resistance of the body to be gradually built up so as to overcome the infection. The dosage is regulated according to the activity of the disease process at the time of commencing treatment. Generally, in febrile cases with acute clinical signs a larger initial dose is given than in long-standing, seemingly inactive cases.

The method of treatment is to carry out a regular series of injections at certain intervals, during a period varying from six months to two years, the principle being similar to the treatment of syphilis with arsenic or bismuth. The dosage that I now employ is to give an initial dose of 0·01 grm. of solganol B oleosum, and then, after a week's interval, 0·05 grm., and then, at weekly intervals, 0·1, 0·1, 0·2, 0·25. *The 0·25 grm. injection is repeated eight times*, until the end of twelve weeks, a total of 2·5 grm. have been given. This constitutes one course of treatment. After an interval of four to eight weeks a further course of similar dosage is given. This dosage is smaller than that which originally I used, and to which I refer in my book (*The Rheumatic Diseases*). Reactions are less common with the smaller dose, and the clinical results are better.

If a definite reaction, lasting more than twenty-four hours, follows a certain dosage, there should be no increase in dosage at the subsequent injection. In

some cases the interval between the injections may have to be regulated by the reaction produced. No further injection should be given until any reaction produced by the preceding one has subsided.

The effect of treatment must be judged (in addition to clinical observation) by the blood sedimentation rate—taken at regular intervals. If after six or eight weeks there is no reduction in the sedimentation rate, larger doses may have to be used, or, in rare instances, some other gold preparation employed.

D. REACTIONS.

To obtain good results from the treatment, it is not necessary to get any clinical reaction. Reactions, however, occur, and may be classified as (1) Local, (2) Focal, and (3) General.

In my experience, *local* reactions do not occur if the local site is massaged for a short time immediately after the injection.

Focal reactions are uncommon (less than 5% of cases) if the smaller dosage is used. They consist in a transient increase in the pain and swelling of the affected joints, lasting some twenty-four hours, and are usually relieved by aspirin. They do not indicate any alteration from the routine dosage.

General reactions are also uncommon. They consist in increase of pain and a rise of temperature of 1–2° F. If general reaction occurs, it is my practice not to increase the dose at the subsequent injection.

Both focal and local reaction tend to become less frequent as treatment continues.

Toxic Manifestations, or Complications of Gold Therapy.

These are very important, unfortunately not uncommon, and may be serious and even fatal. These may be divided into effects on—

(*a*) The skin and mucous membrane.
(*b*) The liver and the kidneys.
(*c*) The central nervous system.
(*d*) The hæmopoietic system.

The complications have proved fatal only when the hæmopoietic system has been involved.

(a) *Skin reactions* are common, occurring in some 5–10% of my cases. They consist of generalized erythemata, papular eruptions, and exfoliative dermatitis. They may occur at any time during the treatment. In one case of my own, a severe papular eruption occurred after the second injection. In another, a severe exfoliative dermatitis occurred some six weeks after the first course of treatment was finished.

Early and localized skin reactions do not usually indicate cessation of treatment. Generalized reactions, in my opinion, always indicate a temporary pause. The exanthemata usually disappear within a few days. (Asmolysin, adrenalin and hypophysin seems to be a useful antidote: 1 c.c. is given on the appearance of the first toxic signs.)

Reactions in the mucous membranes usually affect the mouth: a metallic taste is a warning symptom, which, when ignored, has been followed by a severe ulcerative stomatitis. Small erosions in the buccal mucous membrane, conjunctivitis and diarrhœa (which may be due to a reaction of the mucous membrane of the bowel) have occurred in my own cases. Treatment should always be discontinued.

In the hope of preventing skin reactions, calcium gluconate may be given—10 c.c. of a 10% solution with each gold injection—and when such reactions have occurred, sodium thiosulphate given intravenously.

(b) *The liver and kidneys.*—Albuminuria is detected not infrequently in the routine weekly examination of the urine. I always stop treatment until the albuminuria has disappeared, and discontinue treatment permanently if casts and red cells are present.

(c) *The central nervous system.*—In one of my cases complete 8th nerve deafness occurred, which still persists two years later.

(d) *The hæmopoietic system.*—The most serious complications affect the hæmopoietic system. Purpura hæmorrhagica and agranulocytosis and aplastic anæmia are serious and, in my own experience, have occurred and proved fatal.

I have the records here of two of my cases.

The first is that of a woman æt. 42, suffering from an early active rheumatoid arthritis. After five injections of solganol B (0·65 grm. total) she developed suddenly a sore throat, a temperature of 102° F. and a faint generalized erythema. Her white cell-count fell to 2000 per c.mm., with an eosinophilia of 7%. Following blood transfusion and pentanucleatide injections, the white cell-count gradually returned to 5000 per c.mm., and she has now (six weeks later) made a satisfactory recovery.

The other case is that of a woman, æt. 52, suffering from a mild rheumatoid type of arthritis, associated with the menopause. After four weekly injections of solganol B (0·65 grm. total) she developed a diffuse hæmorrhagic purpura, and subsequently a right pneumonic consolidation and a subarachnoid hæmorrhage. She died, and a careful post-mortem examination was made for me by Dr. Barnard, which will be reported elsewhere. In addition to multiple gross hæmorrhages, minute hæmorrhages were visible in all the small joints of the body. There was also evidence of syphilitic aortitis.

Such accidents are as likely to occur in seemingly mild cases after only one or two injections as in severe cases after two or three series of injections. It is only by careful clinical observation, coupled with routine blood sedimentation-rate tests, urine tests, and blood examinations (to watch especially for a diminution in the total white cell-count and an increase in the eosinophil percentage—usually to 7% or over), that one can be forewarned.

In my experience, it has been in the seemingly most unlikely cases that these unpleasant complications have arisen. It is therefore important to warn both the patient and the general practitioner of the possibility of their occurrence, and also never to leave the injections to be given by a nurse.

(E) CLINICAL RESULTS.

If gold treatment is applied in carefully selected cases the clinical results are good. Clinical improvement usually shows itself by an early relief of pain on movement and at rest, a gradual increase of painless movement of the affected joints, and, later, a diminution of the joint swelling. Also, there is seen a gradual improvement in the general health of the patient, an increase in appetite and in strength, an improvement in colour, and a gain in weight. The temperature, if raised, tends to settle, and there is an improvement in the pulse-rate and the blood-count. The blood sedimentation rate gradually returns towards normal, and in certain instances I have had radiographic evidence of an increase in bone density. The extent of the improvement naturally depends largely on the condition of the patient at the commencement of the treatment.

In early cases, in the first stage of the rheumatoid type of arthritis, a complete "cure" may follow with full restoration of function. If treatment is started when the disease has already reached the second or third stage—when pannus formation, cartilage erosion, periarticular fibrosis and deformity has already occurred—the results necessarily are less spectacular. The infective process may be arrested and pain and joint swelling relieved, but the destroyed joints cannot be repaired by means of gold treatment alone.

The hospital patients under my care have usually been confined to bed during the period of treatment. Chemotherapy was combined with rest, adequate diet and physiotherapy. In several instances gold therapy proved an invaluable prelude to orthopædic treatment.

There are so many factors to be taken into consideration that a presentation of detailed statistics will not, I think, help you in visualizing the results.

In general, of my cases, half have responded well to treatment, and the "disease" has become arrested. The restoration of function has been dependent upon the original amount of joint damage. To achieve these results, the length of the treatment varied from three months to two years.

Exacerbations have been uncommon when a full course of treatment has been given. It is my impression that patients with spondylitis ankylopoetica do *not* respond so well as those with true rheumatoid arthritis. Also, in the rheumatoid type of arthritis that occurs about the time of the menopause—in which mesenchymal changes (such as panniculitis and varicosities) are marked—and in which the blood sedimentation rate may be only slightly raised or even normal, complications are more frequent than in any other type.

In conclusion, my personal experience of gold treatment has led me to believe that in selected cases, particularly those of the rheumatoid type of arthritis, a course, or several courses, of gold injections, when given under strict medical supervision, controlled by frequent blood examinations and associated with other general dietetic and physiotherapeutic measures, is a very valuable method of treatment.

FRANCIS BACH.

FURTHER DEVELOPMENTS IN GAS AND AIR ANALGESIA IN LABOUR.

IN May, 1934, there was published in the *St. Bartholomew's Hospital Journal* a brief account of our work at the Wellhouse Hospital, Barnet, on gas and air analgesia in labour. Further developments of this work will, I think, be of interest to St. Bartholomew's men, because it was largely owing to the pioneer work of a St. Bartholomew's anæsthetist, Mr. Boyle, with gas and oxygen analgesia in labour that gas and air came into use at all.

American anæsthetists showed, about 1917, that good results could be obtained from the use of *gas and oxygen* in labour; pain was relieved without danger to mother or child and without hindrance to the normal course of labour. In this country we were greatly indebted to Mr. Boyle for calling attention to the great advantages gas and oxygen had over all other methods for use in maternity work. Gas and oxygen indeed was so successful after its introduction into England and became so generally employed by well-to-do women, who could afford to have an anæsthetist present at their confinements, that this led to the demand that something more should be done for poorer women. This demand was voiced very strongly by a body of people who were

desirous of improving our maternity services, and who had collected money for research work to be done, and who had formed what is now known as the National Birthday Trust Fund.

Their first experiments were made with chloroform capsules—small crushable glass capsules containing ℥xx of chloroform which were crushed and placed under a mask when necessary, the mask being given to the patient, so that she could inhale from it chloroform vapour when in pain. Very extensive experiments were carried out with these capsules and good results obtained, although many obstetricians and anæsthetists were not altogether in favour of the use of chloroform in any form in maternity work. This work, however, attracted much attention, and led to a discussion being held on the whole question of relief of pain in midwifery by the Association of Anæsthetists in October, 1933. It was at this discussion that Dr. Minnitt, of Liverpool, showed a machine that he had devised for the *self-administration* of a mixture of nitrous oxide and air.

Nitrous oxide and air was a compromise between nitrous oxide and oxygen and pure nitrous oxide gas, because it was felt that nitrous oxide and oxygen could never become available for all women because of technical difficulties, and nitrous oxide by itself was not altogether safe. What Dr. Minnitt desired to obtain was some method of giving relief in labour which could be used by anyone, because such a large number of confinements in this country are attended only by midwives, and even many women who engage a medical practitioner cannot afford to pay for the attendance of an anæsthetist as well.

Dr. Minnitt adapted the McKesson nitrous oxide apparatus for his use by making air-holes in the machine so that the patient inhaled a mixture of nitrous oxide and air of such strength that she never became unconscious. This apparatus was automatic in action, so that the patient could administer nitrous oxide and air to herself. Dr. Minnitt's method became known as *self-administered gas and air analgesia.*

THE METHOD EMPLOYED.

She is given a rubber face-piece and told to apply this closely to her face and inhale from it when in pain, laying it aside when the pain passes away. Since she never loses consciousness she is able to do this with ease. Dr. Minnitt started his experiments at the Liverpool Maternity Hospital in the autumn of 1933, and shortly afterwards at the Wellhouse Hospital; we co-operated with him by using gas and air analgesia in the maternity wards. The combined results of these two experiments were given in May, 1934, at the Royal Society of Medicine and attracted much attention. Since that time many other hospitals have adopted the use of gas and air analgesia, and the National Birthday Trust Fund has given great assistance so that further experiments with this method have been made.

It was claimed that gas and air analgesia had certain advantages over all other methods of giving relief in labour. It could be used by anyone. The patient was given satisfactory relief from pain, although the absolute relief obtained with gas and oxygen could not be promised in every case. It was absolutely safe to both mother and child, and labour was not prolonged from its use.

Gas and air analgesia began to come into general use in hospitals and nursing homes, but there was a regulation made by the Central Midwives Board that the use of anæsthetic agents was outside the province of the midwife and this regulation hindered its extended use. The National Birthday Trust Fund then made an appeal to the Central Midwives Board to alter their regulation, and after some discussion it was decided that the British College of Obstetrics and Gynæcology should carry out an investigation of various methods of giving relief in midwifery to see what method or methods might be safe for midwives to use, the cost of this investigation to be financed by the National Birthday Trust Fund. A large number of patients in different hospitals were given analgesia in labour by various methods and a careful study made of the results, and a report has recently been issued by the College. As a result of this investigation the College are not in favour of the use of chloroform, but they have decided that the investigation has proved that the administration of gas and air by the Minnitt apparatus is safe for use by midwives in hospital provided that a recent examination by a medical practitioner has revealed no contra-indication thereto.

The College find that—

(1) Gas and air analgesia is a safe method of giving relief in labour, that labour is in no way prolonged and there is no increase in forceps deliveries and that there is no harm to the baby, and they recommend its use for midwives in hospital, but they advise these midwives should have a special training before using gas and air analgesia.

(2) Gas and air analgesia was found to give satisfactory relief from pain in a high proportion of cases, although they recommend that one other responsible person should be present in addition to the midwife in charge of the case.

(3) Criticism was made as to the bulk and weight of apparatus and to its mechanical unreliability; and the initial cost of the apparatus and the nitrous oxide gas are thought to be a handicap to its general use.

This report of the College of Obstetrics and Gynæcology is so important that it is worth our while to study it in detail.

1. *Safety.*—It is indeed pleasant to read that the administration of gas and air is considered safe for use by midwives in hospital, because the whole future of the relief of pain in midwifery depends on the midwife being allowed to make use of some approved method for the benefit of her patients. The College do not at present advocate midwives being allowed to use gas and air analgesia for their own patients in domiciliary midwifery, but have suggested further investigation shall be carried out to see whether this very important step can be taken. It is, of course, of the utmost importance that this further investigation shall be made, because both in hospital and in private practice the midwife is occupying a more important position, and there are many thoughtful people who consider that if we are to have safer and better midwifery we must leave the cases more and more to the midwife. The midwife and the midwife alone can give sufficient time to the case, and it is just this matter of time that is so all-important.

2. *Training of midwives in use of gas and air.*—The recommendation of the College that the use of gas and air should be restricted to those midwives who have been specially trained in its use seems a reasonable precaution, but I feel that they are unduly pessimistic in their assumption that it requires considerable experience to learn the essentials of obstetrical analgesia. After nearly three years of personal experience I feel that there is really nothing in the technique of administration of gas and air or in the care of the apparatus which cannot be learned by any intelligent layman in ten minutes, but it does require experience to know just when to start the gas if the best results are to be obtained.

3. *Must the midwife have an assistant?*—The report suggests that one other responsible person in addition to the midwife should be present when gas and air is being used, and in my opinion no one can fill this place better than an intelligent relation or friend in domiciliary midwifery. During the time I have been using gas and air in my private practice I have made a special point of getting some female relation into the room, to see that there is no deception about the analgesia, as it were, and I have got this relation to take charge of the administration, change the cylinders and generally look after the machine. I have never had any difficulty when I have done this, and I have found that it is a plan which works well, and the presence of a relation in the room often calms an excitable or restless patient.

4. *Apparatus.*—The College criticize the bulk, weight and cost of the apparatus, and we must admit that gas cylinders are heavy, apparatus is costly and the price of gas no small consideration, but we need not despair; with a little ingenuity all difficulties can be overcome.

We have had in use at the Wellhouse Hospital and at the British Hospital for Mothers and Babies an apparatus consisting of a cheap metal stand holding two gas cylinders joined by a coupling, and on to this coupling the actual mechanical part of the machine is attached by means of one nut and screw, so that it is only the work of a few moments to separate machine from stand and cylinders. The apparatus is designed for domiciliary midwifery and we consider that as gas cylinders can be hired at very reasonable terms, the cylinders and stand can be sent to the patient's house before the confinement is due and the midwife need only bring the machine, which weighs only a few pounds and is easily portable. By carefully screwing tight all joints much gas can be saved, and in order to reduce the cost of gas we have recently been trying the value of partial rebreathing on gas and air machines which seems to work well: we use a 500 c.c. rebreathing bag; no ill effects have been observed and much gas is saved.

As regards the cost of the apparatus this has already been reduced, and there are, in addition, two new gas and air machines on the market costing £12 12*s.* and £11 11*s.* respectively, and there can be little doubt that others will follow.

5. *Relief of pain.*—The British College of Obstetrics and Gynæcology's results are not so satisfactory as regards relief from pain as those obtained at many hospitals; they find that 77% of cases were successful in a series of 3589 cases.

At the Wellhouse Hospital and the British Hospital for Mothers and Babies we have obtained a higher percentage of success, but then our nursing staff, who now take charge of most of the cases, have taken infinite pains to obtain good results, though from our own experience we can understand why failures do occur and what are the commonest causes of these.

Success or failure with the gas and air depends partly on the method, partly on the patient, partly on the administration, partly on the machine. With two human and one mechanical factor there is much opportunity for error, and if we study these factors in detail we shall see why some failures do occur.

CAUSES OF FAILURE TO OBTAIN ADEQUATE RELIEF FROM PAIN: THE METHOD ITSELF.

A. Gas and air analgesia consists in administering to the patient, or rather persuading the patient to administer to herself whilst in pain, a mixture of nitrous oxide and

air, and in order to obtain absolute safety, it is necessary that the pecentage of nitrous oxide in air shall never be sufficient to be in any way harmful to the most susceptible patient, so that it will be obvious that unless this percentage be increased for the least susceptible patient, this latter will receive insufficient gas.

Because the object is to produce some method of giving relief which can be made use of by persons having no knowledge of anæsthesia, this varying of percentages is just what cannot be done, so that the least susceptible patient has to put up with her pain; but failures from this cause should not exceed 5%. Certainly a way out of the difficulty can be found by means of pre-medication with sedative drugs, but the British College of Obstetrics and Gynæcology were not out to test the value of pre-medication; so we must forgive them for a certain number of failures in their attempts to obtain relief with gas and air alone.

The Patient.

B. In analgesia, as in all matters medical, the patient is the most difficult problem, and I think that many physicians have retired from practice, not because they were tired of medicine, but because they were tired of patients. So with analgesia—it is of no use our being satisfied with the amount of relief given if the patient is not.

I recently gave gas and air for twenty-four hours to a somewhat temperamental young woman, who started her gas with the first pain, took the machine to bed with her, taking a few breaths with each pain, sleeping soundly between them until the second stage was reached, when she gave herself almost a continuous analgesia until the baby was born. I felt well satisfied that this had been one of my best cases, but not so the patient, who considered gas and air analgesia of no value. I have become wiser since, and always allow the patient a few good pains before starting the gas, and I think it is a good plan to let the patient know what severe labour pains are like.

Then we have the patient who will never be satisfied; she is determined to have full anæsthesia with forceps delivery, and she tells us she has not the strength to hold the face-piece on her face, and if it is held on for her will not breathe but tells us she is suffocating. These patients can sometimes be managed by a particularly gifted nurse (one of our Sisters can do it), but must as a rule be numbered among our failures. Some patients will not co-operate at all and simply refuse to breathe-in the gas, and with these patients very little can be done.

Administration.

C. The method of breathing-in the gas and the time of starting the administration are two important points to consider if failures are to be avoided, and if the administration is started rather late in labour when the "pushing-down" stage has been reached, for example, difficulty may be experienced in persuading the patient to take several deep breaths of gas before "pushing down", and if this is not done, little relief can be expected. The patient should always be made to take four or five breaths of gas and then push down—more breaths and push again, and so on.

Another common cause of failure is an ill-fitting face-piece, or the application of the face-piece to the face in the wrong way.

The Person in Charge of the Administration and the Machine.

D. These two factors must be considered together.

The College consider that "as the apparatus is now constructed, leakage may occur in many places unless constant attention is given to minor adjustments", but, as with all things mechanical, good results depend on careful usage.

The apparatus used by Minnitt and tested by the British College of Obstetrics and Gynæcology is an adaptation of the McKesson nitrous oxide apparatus. It is an extremely simple machine, and if reasonable care is taken in its use, mechanical troubles will be few. At the Wellhouse Hospital and at the British Hospital for Mothers and Babies, little trouble has been experienced with apparatus.

In a mechanical age, when we are all used to complicated machinery in everyday life, the gas and air machine presents no terrors to its users, and a midwife who can care for an Austin Seven, or a woman who can look after a vacuum cleaner, can certainly be trusted to manage a gas and air machine. The user and not the machine is the important factor, and it is our experience that if the administrator is careless and allows the gas cylinders to become empty without noticing this or fails to screw them firmly on to the apparatus, bad results will be obtained, while the good midwife obtains good results.

The particular findings and conclusions in the British College of Obstetrics and Gynæcology report, themselves of importance, are something of a mild triumph for the supporters and advocates of gas and air analgesia, but the really outstanding feature is that there has been a report at all, that the leading authoritative obstetrical body in this country has realized that advocates of analgesia had a case to test and have tested it.

Ever since the day when Simpson first showed that the pains of labour could be alleviated by means of chloroform, we have been practically at a standstill because Simpson's teaching was misunderstood and is misunderstood to-day, as the British College of Obstetrics and Gynæcology's report on chloroform analgesia very well shows.

Obstetrical attendants have never, as a whole, learned the art of chloroform analgesia, with the result that many sad accidents have occurred, and the use of anæsthetic agents in small doses during labour has fallen into some disrepute. The investigation has been an extremely severe one, but has justified the claims of the "analgesists" that relief could be given in labour with safety, and although gas and air is by no means perfect, it does at least enable us to make much headway in solving a problem which has baffled us for so long.

JOHN ELAM.

STUDENTS' UNION.

CRICKET.

ST. BARTHOLOMEW'S HOSPITAL *v.* MIDDLESEX HOSPITAL.

2nd Round Inter-Hospitals Cup.

Played at Winchmore Hill on June 10th. *Won* by 181 runs.

Winning the toss Mundy batted first on a true, hard wicket. Heyland and Johnstone again gave us a good start, though both were at times lucky. At 65 Heyland was lbw for a patient and valuable 26. Wheeler joined Johnstone, but at 83 the latter was bowled by Skea, who during this over had the misfortune to strain a muscle which prevented him taking any further part in the match. Johnstone scored 48.

Brown, North, Wheeler and James were quickly in and out, and lunch and the President, Mr. Boyle, arrived with the score 102 for 6. After lunch Maidlow and Harmer brought about a recovery, adding 73 before Maidlow was caught off a full toss for 32. Harmer left at 180 for a hard hit 44, which included 7 fours. Hunt then saw the ball incredibly clearly and hurried the score along, making 63 and being undefeated when Mundy declared at 280 for 9.

Middlesex were given 20 minutes' batting before tea and these proved disastrous to them. They lost Thompson their Captain, who last year made a century against us, for 0, Harmer holding a catch in the slips off James in the second over. Riddell then touched one swinging away from Mundy and Hunt made sure of it behind the wicket—7 for 2. Mundy and James continued to bowl steadily and wickets fell, mostly to James, who in all took 4 for 41. Harmer then relieved Mundy and captured 3 for 8.

Middlesex were all out for 99, and so we reversed our defeat of last year.

ST. BARTHOLOMEW'S HOSPITAL *v.* ST. MARY'S HOSPITAL.

Semi-final Inter-Hospitals Cup.

Played at North Wembley on July 1st. *Won* by 109 runs.

The Hospital batted first on a slow, wet wicket, and lost Johnstone with only 1 run scored. Brown and Heyland batted carefully and well, but Morrisson was swinging the ball a lot, keeping an excellent length, and it did not surprise us when he was rewarded with another wicket, clean bowling Heyland for 14. Brown meanwhile was playing an invaluable innings, one which we've waited for all the season. Wheeler stayed with him, scoring a patient 23 before being bowled by one that didn't rise. Maidlow and Grant got in front of straight balls when each had looked set, and then Brown was out for 60: 128 for 7. This certainly didn't seem good enough. Hunt, who hit everything, and Mundy then made things look better, and put on 68 before Hunt was bowled for 38. The innings closed for 200, and we went into the field keen, but rather wishing we'd been able to make more of the golden opportunity of beating St. Mary's without Owen Smith.

Shneerson played a stroke at Mundy's second ball for which he must still be kicking himself, and we had their most dangerous man back in the pavilion for 0 runs. Mundy continued bowling splendidly, and was rewarded at 37 when Grant held Morrisson at mid-off. The fielding was excellent, nothing being given away, and the Hospital got on top thanks to two admirable catches by James. These were the next two wickets and the score was 54 for 4. Rutherford was bowling extremely well, and Mundy kept going at the other end. Wickets fell regularly, and St. Mary's were all out for 91.

Mundy took 5 for 45, and Rutherford 4 for 18. Both bowled grandly.

The final against St. Thomas's Hospital will commence on September 5th, and will be played to a finish.

HOCKEY CLUB.

The Annual General Meeting of the Hockey Club took place on Friday, May 15th, 1936, and the following elections were made:

President.—Dr. A. E. Gow.

Vice-Presidents.—T. H. Just, Esq., Dr. Geoffrey Evans, Dr. J. H. Hunt, H. B. Stallard, Esq.

Captain of 1st XI.—A. D. Messent.

Hon. Sec. of 1st XI.—R. Heyland.

Hon. Match Sec.—M. E. Moore.

Captain of 2nd XI.—P. Jayes.

Hon. Sec. of 2nd XI.—E. O. Evans.

Captain and Hon. Sec. of 3rd XI.—J. S. Lillicrap.

The following Honours were awarded for the season 1935–36:

W. A. Oliver.	A. H. Masina.	E. J. Griffiths.
A. D. Messent.	J. M. Lockett.	T. M. C. Roberts.
R. Heyland.	C. Perkins.	R. A. House.
J. R. Winter.	M. E. Moore.	

LAWN TENNIS CLUB.

ST. BARTHOLOMEW'S HOSPITAL *v.* GUY'S HOSPITAL.

On Thursday, June 18th, at Honor Oak Park, St. Bartholomew's Hospital were beaten by Guy's Hospital in the second round of the Inter-Hospitals Cup by 3 matches to 9. We unfortunately won only one of six singles; E. Corsi, however, had an excellent match against H. G. N. Cooper before he was eventually beaten 2—6, 5—7.

In the doubles Guy's Hospital only required to win four of the remaining nine matches, which they managed to do with the loss of only two matches. Results:

E. Corsi lost to H. G. N. Cooper, 2—6, 5—7; W. K. Frewen lost to K. Chartkavamj 0—6, 2—6; P. J. Hardie lost to E. P. O. Watson 1—6, 4—6; G. L. Way lost to H. R. S. Harley 2—6, 3—6; R. C. Witt lost to R. S. Stevens 1—6, 3—6; J. B. Waring beat W. Hughes 6—2, 6—4. E. Corsi and W. K. Frewen lost to H. G. N. Cooper and H. R. S. Harley 2—6, 5—7, and also beat R. S. Stevens and W. Hughes 6—4, 8—6; P. J. Hardie and G. L. Way lost to K. Chartkavamj and E. Watson 3—6, 4—6, and also lost to H. G. N. Cooper and H. R. Harley 4—6, 1—6; R. C. Witt and J. B. Waring lost to K. Chartkavamj and E. Watson 4—6, 2—6, and also beat R. S. Stevens and W. Hughes 6—3, 8—6.

ST. BARTHOLOMEW'S HOSPITAL *v.* CHISWICK PARK B.

At Winchmore Hill on Saturday, June 20th, St. Bartholomew's Hospital were beaten by 3 matches to 5 by Chiswick Park B. Results:

W. K. Frewen and J. J. Slowe beat 1st pair 6—3, 5—7, 6—2; lost to 2nd pair 4—6, 4—6; lost to 3rd pair 4—6, 5—7.

R. C. Witt and and J. B. Waring beat 2nd pair 7—5, 0—6, 8—6; beat 3rd pair 6—3, 6—4.

G. L. Way and B. Acharya lost to 1st pair 4—6, 6—8; lost to 2nd pair 6—4, 2—6, 3—6; lost to 3rd pair 4—6, 7—5, 7—9.

CHISWICK PARK *v.* ST. BARTHOLOMEW'S HOSPITAL.

On Wednesday, June 24th, at Chiswick Park the match was left unfinished, Chiswick Park were leading by 4 matches to 2. Results:

P. J. Hardie and R. I. G. Coupland lost to W. Evans and R. Smith 1—6, 2—6, and also beat Turner and Robertson 9—7, 6—4; B. Alexander and H. Knowles lost to W. Evans and R. Smith 2—6, 5—7, and also lost to M. Stewart and L. Hare 5—7, 1—6; G. L. Way and B. S. S. Acharya lost to M. Stewart and L. Hare 6—3, 6—8, 6—8, and also beat Turner and Robertson 6—3, 6—3.

STAFF COLLEGE *v.* ST. BARTHOLOMEW'S HOSPITAL.

On Saturday, July 4th, the Staff College beat the Hospital by 5 matches to 4 after a most enjoyable encounter. Results:

G. L. Way and J. B. Waring beat G. O. Jameson and G. C. Evans 6—2, 2—6, 6—4, lost to I. R. Campbell and A. J. Capel 4—6, 3—6, and beat H. P. Mackley and G. K. Bourne 6—4, 6—2.

H. Knowles and B. Alexander lost to G. O. Jameson and G. C. Evans 2—6, 1—6, beat I. R. Campbell and A. J. Capel 6—4, 8—6, and beat H. P. Mackley and G. K. Bourne 6—3, 6—3.

R. H. Dale and R. L. Benison lost to G. O. Jameson and G. C. Evans 0—6, 0—6, lost to I. R. Campbell and A. J. Capel 1—6, 1—6, and lost to H. P. Mackley and G. K. Bourne 3—6, 2—6.

GRASSHOPPERS *v.* ST. BARTHOLOMEW'S HOSPITAL.

On Sunday, July 5th, the Grasshoppers Club were at home to the Hospital 1st VI, and after a most pleasant afternoon's tennis the Hospital lost by 6 matches to 3. Results:

E. Corsi and G. L. Way lost to K. H. Bowen and W. Edwards 6—3, 5—7, 4—6, lost to S. Jagger and E. Snell 4—6, 4—6, and beat J. C. Roe and K. Fitzgerald 8—6, 6—3.

J. H. Hunt and C. A. Hinds-Howell lost to K. H. Bowen and W. Edwards 4—6, 4—6, lost to S. Jagger and E. Snell 1—6, 1—6, and beat J. C. Roe and K. Fitzgerald 6—3, 0—6, 6—4.

P. J. Hardie and M. H. Desmarais lost to K. H. Bowen and W. Edwards 5—7, 1—6, lost to S. Jagger and E. Snell 5—7, 1—6, and beat K. Fitzgerald and J. C. Roe 6—2, 6—4.

MELBURY CLUB *v.* ST. BARTHOLOMEW'S HOSPITAL.

On Wednesday, July 8th, the Hospital were beaten by the Melbury Club at Kensington by 3 matches to 6. Results:

W. K. Frewen and J. B. Waring beat J. H. Hunt and C. A. Hinds-Howell 7—5, 3—6, 6—4, lost to W. S. Maclay and I. C. Duthie 4—6, 4—6, and beat R. J. W. Halliday and G. S. Parbury 6—4, 6—4.

P. J. Hardie and R. I. G. Coupland lost to J. H. Hunt and C. A. Hinds-Howell 6—4, 4—6, 6—4, lost to W. S. Maclay and I. C. Duthie 3—6, 6—4, 2—6, and beat R. J. W. Halliday and G. S. Parbury 6—1, 3—6, 8—6.

G. L. Way and M. H. Desmarais lost to J. H. Hunt and C. A. Hinds-Howell 4—6, 6—1, 0—6, lost to W. S. Maclay and I. C. Duthie 1—6, 6—0, 1—6, and lost to R. J. W. Halliday and G. S. Parbury 5—7, 6—8.

Second Round of the Junior Inter-Hospitals Cup.

On Friday, July 3rd, at Winchmore Hill the 2nd VI beat Guy's Hospital in the second round of the Inter-Hospitals Cup by 8 matches to 7. After a very close encounter we won four of the six singles and four of the nine doubles. Results:

B. Alexander beat Marley 7—5, 6—4; H. Knowles beat Southwell 6—4, 5—7, 7—5; B. S. S. Acharya beat Archer 6—3, 6—4; G. S. Williams lost to Chapman 1—6, 0—6; L. H. Cane lost to Stoddard 3—6, 5—7; P. F. Barwood beat Zorab 6—3, 6—1.

B. Alexander and H. Knowles lost to Marley and Southwell 4—6, 5—7, beat Chapman and Zorab 9—7, 6—1, and beat Archer and Stoddard 6—1, 6—1.

G. Williams and P. F. Barwood lost to Marley and Southwell 1—6, 5—7, lost to Chapman and Zorab 1—6, 4—6, and lost to Archer and Stoddard 3—6, 2—6.

B. S. S. Acharya and L. H. Cane lost to Marley and Southwell 5—7, 0—6, beat Chapman and Zorab 6—4, 7—5, and beat Archer and Stoddard 8—6, 2—6, 6—1.

CORRESPONDENCE.

A PLURAL LIVING.

To the Editor, 'St. Bartholomew's Hospital Journal'.

SIR,—Mr. Vick's brief history of the College gives me, with your leave, an opportunity of acknowledging Bart.'s hospitality to an old Guy's man in 1902. I must be the only Guy's man to have lived both in Bart.'s and Guy's Colleges. After house appointments, Gordon-Watson, R. W. Jameson and I were in the first batch of Civil Surgeons to go out to the South African War in 1899. As a result Gordon-Watson and I on our return took rooms together in London, S.W., to work at Bart.'s for the Fellowship. Within a few weeks of the examination we were turned out of our rooms by a grasping landlady, who hoped—as it proved, in vain—to make a fortune out of visitors for King Edward VII's Coronation. In the emergency Bart.'s College received us both, and I had the privilege of living with the residents under Dr. Calvert, as Dean, and making many friends with them and with the junior staff. I was even allowed to act for a week or so as an assistant ophthalmic house surgeon in the holiday season—a rare experience for an ex-house physician of Guy's. Gordon-Watson, of course, passed his Fellowship, and I had to go back to Guy's before passing in the following year. But nothing will ever lessen my respect and friendship for Bart.'s, or my congratulations on a College which will now be as superior as the old College was terribly inferior—in material respects—to that at Guy's.

Yours truly,

FRANCIS FREMANTLE.

Bedwell Park,
Hatfield, Herts;
July 20th, 1936.

TEACHING OF THERAPEUTICS.

To the Editor, 'St. Bartholomew's Hospital Journal'.

SIR,—In the July issue of *St. Bartholomew's Hospital Journal* appears a letter from a student, Mr. Dickins, who seems to belittle the need for a painstaking teaching of "Treatment". Rational treatment without accurate diagnosis is, I admit, impossible; nevertheless of what real value is it to the patient to have a label attached to his complaint if then his treatment is neglected? Sir, I protest that the medical care of the patient cannot be learned from a text-book, and its practice is only to be acquired by a thoughtful compounding of the experience of one's teachers with one's own observations based on sound basic knowledge of all forms of therapy. This is the art of medicine which our generation is losing amidst all the scientific and pseudo-scientific ancillaries of modern practice. Many a time is the diagnosis only too obvious, yet the advice and treatment we are called upon to give is a matter of extreme nicety of judgment.

The clinical teaching on the diagnosis of the text-book diseases and of general principles and specific remedies to be applied in their treatment is excellent. The intelligent student leaving the portals of St. Bartholomew's carries with him not only a scientific knowledge of medicine, but also much of the accumulated wisdom of our forbears from Hippocrates, carefully sifted and added to by his masters, and later to be mellowed by his own experience. But I fear he often leaves with little knowledge of minor ailments and their care, as well as of the details of treatment to be applied in other cases. Because of this want in his training he fails to obtain the full confidence of his patients and of society which he might otherwise enjoy to his own profit and to that of the community, and does not become as, completely as he might, that instrument for the comfort of the peoples that is his mission.

I would suggest that each student, as in past ages, should be, during part of his training, apprenticed to some respected general practitioner of ripe experience, that he might learn of him the daily care of those whose maladies require other than specific treatment. Could not men of such type be appointed as casualty physicians instead of embryonic consultants? Students might then have some opportunity for apprenticeship in the Hospital Casualty Department, which might then usefully be enlarged.

Yours, etc.,

C. O. S. BLYTH BROOKE,
M.R.C.S., L.R.C.P., D.P.H.

Town Hall,
Finsbury, E.C. 1;
July 18th, 1936.

REVIEWS.

A HUNDRED YEARS OF MEDICINE. By WYNDHAM E. B. LLOYD, M.A., M.R.C.S., D.P.H. (London: Duckworth, 1936.) Pp. 344. Price 15s.

This excellent book, which is a companion volume to Duckworth's similar publications on psychology, anthropology, English government, and inland transport, though written primarily for the layman, should prove a source of interest and inspiration to every medical student. It makes a brief but comprehensive review of a very wide field, and the information is presented with sufficient accuracy and detail to provide the reader with a true and vivid picture of the astonishing changes which have taken place in the world of medicine during the past century.

The author is careful to point out that recent advances are in many instances the fruit of discoveries made in the comparatively

remote past, but honour is nevertheless due not only to the original discoverers, but also to those who had the vision and the understanding to see that the knowledge already acquired could be applied to the theory and practice of medicine. It is interesting to note how each newly-recognized factor in disease—whether chemical, physical, biological, bacterial, toxic, hormonic, metabolic, or a deficiency in the food or endocrine system—is hailed not only as the cause of some particular disorder, but as the explanation of many other diseases, including cancer. The devious ways which have been followed to reach our present position are described in the clear and entertaining style which can be achieved only by one who is himself fascinated by his subject, and the book ends on a prophetic note by attempting to forecast what the future may hold for the medical profession.

Since the author is particularly interested in the public health services, his idea that the main duty of the doctor should be to promote good health in his patients as the best method of preventing disease should be given very careful consideration; and though the truth of his contention is self-evident, it involves a radical alteration in the present-day relationships between patient and doctor, and would relegate the treatment of disease to a position of secondary importance. It may well be that if the public conscience can be quickened to desire health instead of to dread disease, the next hundred years may hold in store even more astounding changes than this book has to record.

A SHORT PRACTICE OF SURGERY. By HAMILTON BAILEY, F.R.C.S., and R. J. MCNEILL LOVE, M.S., F.R.C.S. Third edition. (London: H. K. Lewis & Co., Ltd., 1936.) Pp. 991. Figs. 763. Price 28s.

Scarcely eighteen months have elapsed since the appearance of the second edition of this text-book. Nevertheless the authors feel justified in placing another edition on the market since "surgery still makes such rapid strides" and since, presumably, the second edition was such a success. And we hope it was, because in our view it contains all the surgery that need be known for the qualifying examinations, and imparts this information with a clarity seldom found in text-books.

It is a pleasure to observe that, unlike most of its colleagues, the third edition contains fewer pages than did the first edition; that in spite of this there have been added thirty-two additional figures, each worth half a page of text; and that in particular the diagrams showing the common sites of fracture in the various long bones have been greatly improved. Otherwise it is still in its original and admirable form, and to those already familiar with it, it will need no further recommendation. To those who have not yet invested in a text-book of surgery we would say this: that this is as good a book on the subject as can be bought.

EXAMINATIONS, ETC.

University of Cambridge.

Third Examination for Medical and Surgical Degrees, Easter Term, 1936.

Part I.—David, J. E. A., Fraser, A. C., Hunt, R. S., Loxton, G. E., Maclaren, H. C., McNeil, C., Newbold, J. C., Payne, A. M. M., Taylor, W. J. J., Wenger, R. A. L.

Part II.—Beckett, F. G. A., David, J. E. A., Ledward, A. D., Maddox, F. C., Masterman, E. B. Z., Newbold, J. C., Parks, J. W., Saxton, R. S., Swain, R. H. A., Williams, E. G. K.

University of London.

Second Examination for Medical Degrees, July, 1936.

Part II.—Anthony, R. H., Bassett, T. H., Baxter, E. M. E., Bintcliffe, C. J., Bose, C. F., Crabb, E. R. T., Elder, P. M., Elek, S. D., Evans, E. G., Fisk, G. R., Frankel, P., Gimson, P. A., Goodman, P., Howitt, J. S., Hughes, J. F., Lillicrap, J. S., Lockyer, N. S., Mackay, G. C., McShine, L. A. H., Morgenstein, A., North, J., Ohannessian, A. O. A., Post, F., Potter, F. L., Rochford, J. D., Shuttleworth, V. S., Smith, B. J. D., Snelling, M. R. J., Ware, M., Warrick, C. K.

Conjoint Examination Board.

Pre-Medical Examination, June, 1936.

Biology.—Cooper, C. F., Druitt, A. W. N., Morris, D. S., Perkins, C. P.

First Examination, June, 1936.

Anatomy.—Bell, C. J., Golledge, N. H. H., Irvine, B. A., Marrett, H. R., Owlett, R., Roberts, T. M. C., Vincent, S. E.

Physiology.—Bell, C. J., Golledge, N. H. H., Irvine, B. A.

Pharmacology.—Brennan, E. B., Hartill, G. G., Jackson, K. V., Knowles, H., Pallot, K. R., Quibell, E. P., Smith, J. B. G., Webb, C., Webber, R. Hanbury, Weston, J. W.

CHANGES OF ADDRESS.

CULLINAN, E. R., 10, Park Square West, Portland Place, N.W. 1. (Tel. Welbeck 1834—unchanged.)

FOOKS, Lt.-Col. G. E., I.M.S., 24, Richmond Chambers, Richmond Hill, Bournemouth.

FRANKLIN, A. W., 10, Park Square West, N.W. 1. (Tel. Welbeck 8020.) Residence: 22, De Walden Street, W. 1. (Tel. Welbeck 4642.) After August 11th.

LEONARD, Col. W. H., I.M.S., Thorngumbald, Hull.

LOWRY, E. W., Rochester, Oakwood Road, Wentworth, Surrey.

ROBINSON, R. D., 1, Coombe Rise, Coombe Lane, Kingston-on-Thames. (Tel. Kingston 1924.)

THOMAS, J. SAWLE, Bucks County Mental Hospital, Stone, near Aylesbury.

WELLS, A. Q., Shipton Manor, Kidlington, Oxford.

APPOINTMENTS.

COLTART, W. D., F.R.C.S., appointed Assistant Orthopædic Surgeon to the Nelson Hospital.

FURBER, S. E., M.R.C.S., L.R.C.P., appointed Resident Obstetric Assistant to St. George's Hospital.

THOMAS, J. SAWLE, M.R.C.S., L.R.C.P., appointed Junior Assistant Medical Officer to Bucks County Mental Hospital.

CORRECTION.

ECCLES, W. MCADAM.—Tel. Paddington 7479.

BIRTHS.

BLOXSOME.—On June 26th, 1936, to Helen, wife of H. E. Bloxsome, Fairford—a daughter.

BURROWS.—On June 20th, 1936, at Deane House, Prescot Road, St. Helens, to Nancy (*née* Jackson), wife of Dr. W. R. Burrows—a son.

BURSTAL.—On July 2nd, 1936, at Broadmead, Riverhead, Sevenoaks, to Katja (*née* Kruytbosch), wife of Dr. E. Worsley Burstal—a daughter.

KINGSLEY.—On June 28th, 1936, to Marjorie (*née* Hammond), wife of Dr. A. P. Kingsley, of Osborne House, Burton Latimer, Northants—a son.

WILLIAMSON.—On July 24th, 1936, to Helen Frances, wife of James C. F. Lloyd Williamson, F.R.C.S., of 34, The Drive, Hove—a daughter.

GOLDEN WEDDINGS.

HEWER—EVERARD.—On July 13th, 1886, at Highbury, London, Joseph Langton Hewer, M.D., F.R.C.S., eldest son of Dr. John Henry Hewer, to Annie Martha, eldest daughter of the Reverend George Everard, M.A. Psalm 23, 6. Present address: Firbank, St. John's Road, Sevenoaks.

MASON—ROBERTS.—On June 30th, 1886, at Grafham, Hunts., by the Rev. B. H. Puckle and the Rev. Canon Linton, John Mason, M.D., to Amy Isabella Roberts.

DEATHS.

GIPPS.—On June 25th, 1936, Alexander George Pemberton Gipps, D.S.O., F.R.C.S., Lt.-Col. R.A.M.C. (retd.), formerly Fleet Surgeon, Royal Navy, aged 81.

LOWE.—On July 14th, 1936, in St. Bartholomew's Hospital, Dr. Francis H. Lowe, M.R.C.S.(Eng.), of Camden Lodge, Peckham Road, S.E. 15.

WILKINSON.—On July 15th, 1936, at Weybridge, Surgeon-Captain Edgar Sheldon Wilkinson, M.B., R.N. (retd.).

NOTICE.

All Communications, Articles, Letters, Notices, or Books for review should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, *St. Bartholomew's Hospital, E.C. 1.*

The Annual Subscription to the Journal is 7s. 6d., including postage. Subscriptions should be sent to the MANAGER, Mr. G. J. WILLANS, M.B.E., B.A., *at the Hospital.*

All Communications, financial or otherwise, relative to Advertisements ONLY should be addressed to ADVERTISEMENT MANAGER, *The Journal Office, St. Bartholomew's Hospital, E.C. 1. Telephone: National* 4444.